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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,048	04/04/2001	Faith M. Porikli	MH-5068	2370

7590 04/13/2004
Patent Department
Mitsubishi Electric Research Laboratories, Inc.
201 Broadway
Cambridge, MA 02139

EXAMINER

LE, BRIAN Q

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 04/13/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/826,048

Applicant(s)

PORIKLI, FAITH M.

Examiner

Brian Q Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 04 April 2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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Specification

1. The disclosure is objected to because of the following informalities: The serial number of the U.S. Patent Application and the date of "Method for Segmenting Multi-Resolution Video Objects" is not listed on page 1, lines 1-2 and page 8, lines 3-5 of the specification.

Appropriate correction is required.

Claim Objections

2. Claim 4 is objected to because of the following informalities: "N is a dimensionality of the data sets" is not claimed in the formula. Also, the Applicant needs to explain the significant or the role of " \cup " in the equation. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2 and 5-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Crabtree U.S. Patent No. 6,295,367.

Regarding claim 1, Crabtree teaches a method for determining a compactness ratio of a plurality of data sets (column 21, lines 1-10), comprising:

Measuring a combined compactness value for a union of the plurality of data sets (measuring of perimeter-square);

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Measuring an individual compactness value for each one of the plurality of data sets (measuring area); and

Dividing the combined compactness value by a sum of the individual compactness values to determine the compactness ratio of the plurality of data sets (column 21, lines 1-10 or column 19, lines 15-20).

The Examiner urges the Applicant to consider column 19-24 for the teaching of the broad limitations of claim 1.

For claim 2, Crabtree teaches the method further comprising:

Measuring an area of a particular data set (column 19, line 7);

Measuring a border of the particular data set (bounding box measurement) (column 19, line 7); and

Dividing the area by the border squared to determine a particular compactness value of the particular data set (ratio between the measured area and the measured bounding box) (column 19, lines 5-10 and lines 45-50).

Regarding claim 5, Crabtree further teaches the method wherein the data sets are composed of pixels in a sequence of video frames (column 4, lines 43-55).

Referring to claim 6, Crabtree teaches the method further comprising:

Determining a plurality of compactness ratios, one compactness ratio for each possible pair of data sets (column 19 and column 20); and

Combining the pair of data sets having a maximum compactness ratio (column 27, lines 34-37).

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crabtree U.S. Patent No. 6,295,367.

Regarding claim 3, Crabtree teaches the concept of obtaining/measure an area, maximum chord length and the ratio between maximum chord length versus the perpendicular chord. Crabtree does not explicitly teach the concept of determining a particular compactness value by dividing the area by the border maximum chord. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to calculate a particular compactness value by dividing the area by the border maximum chord since Crabtree clearly teaches various measurements of area, perimeter, maximum chord length and ratio between them. Therefore, it would have been obvious to combine to one of ordinary skill in this art to modify the determination of a particular compactness value by dividing the area by the border maximum chord to obtain the invention as specified in claim 3.

For claim 4, Crabtree teaches the concept of the compactness ratio disclosed in claim 4 (column 22, lines 55-67 and column 23, lines 1-20).

CONCLUSION

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to compactness measurement and spatial arrangement of data:

U.S. Pat. No. 6,263,088 to Crabtree, teaches system for tracking movement of objects in a scene.

U.S. Pat. No. 6,185,314 to Crabtree, system for matching image information to object model information.

U.S. Pat. No. 6,887,073 to Fazzari, teaches a high speed mass flow food sorting method for optically inspecting and sorting bulk food products.

U.S. Pat. No. 6,058,212 to Yokoyama, teaches a motion compensated interframe prediction method based on adaptive motion vector interpolation.

U.S. Pat. No. 6,690,823 to Crabtree, teaches system for tracking movement of objects in a scene.

U.S. Pat. No. 6,690,823 to Holt, teaches method for portioning an arbitrarily-shaped area.

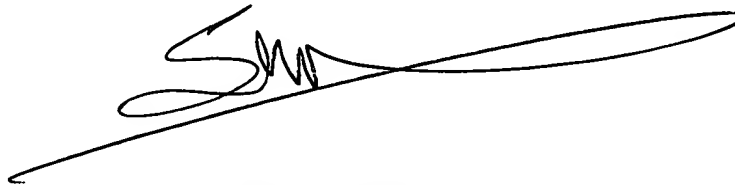
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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC Customer Service whose telephone number is 703-306-0377.

BL
April 8, 2004

A handwritten signature in black ink, appearing to read 'SAMIR AHMED', with a long horizontal flourish extending to the right.

**SAMIR AHMED
PRIMARY EXAMINER**